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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,131

03/31/2004

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42P18203

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01/18/2008

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EXAMINER

HAILU, KIBROM T

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

01/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/816,131

Applicant(s)

GRIMSRUD ET AL.

Examiner

Kibrom T. Hailu

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 10/18/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicants arguments received on October 18, 2007 have been fully considered but they are not persuasive the references cited in the previous Office Action teach the claimed invention. The final rejections given bellow have been explained to provide more detail on how the previously claimed and the newly amended limitations are met by the references provided in the previous Office Action. Therefore, the finality of this Office Action is deemed proper.

The Applicants arguments on page 6 and 7 of the Remarks are not persuasive, and therefore, claims 1, 7, 11, 14, 18 and 22 are not patentable in view of the following disclosure.

Regarding claims 1, 7, 11, 14, 18 and 22, basically the Applicants argue two limitations: “the host receiving a COMWAKE signal originating from the switch” and “the second device or the switch inserting a second signal into transmission of a third signal from the first device to the host”

First, the Examiner respectfully disagrees with the Applicants assertion that Burroughs doesn't disclose the host 26 receives a signal originating from the communications medium or the switch 28. In Figs. 1, 3 and 4; col. 7, lines 13-21; co. 8, lines 27-32; col. 4, line 64-col. 5, line 4, Burroughs explicitly discloses a signal 36 or 84 or 104 is originated or outputted from the communication medium 28 in response to the signal namely COMRESET from the host. Therefore, the Applicants argument that the Burroughs reference doesn't disclose the host receiving a signal originating from the switch is not persuasive.

Second, the Applicants argue based on the newly amended or added limitation, “the second device or the switch inserting a second signal into transmission of a third signal from the

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first device to the host". The Examiner doesn't find the newly added limitation in the specification. Yes, the word "insert" is used in the disclosure. However, the specification doesn't say that the second signal, which is originated from the switch, insert into the third signal from the device. In fact, the specification explicitly shows that the two signals are different (COMWAKE and COMINIT), and transmitted to the host differently or at different times. That is, it is after receiving the second signal (from the switch) that the host receives the third signal. Therefore, the newly added "... the second signal into transmission of a third signal from the first device to the host" is new matter.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 7, 18 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amended limitation, "the second device inserting (ATA device) inserting a second signal into transmission of a third signal from the first device to the host" recited in the claims does not disclose in the specification. The Examiner closely read the specification. However, especially the phrase, "... a second signal into transmission of a third signal from the first device to the host" is not disclosed. Yes, the second signal is from the switch but according to the

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specification, it is not inserted into transmission of the third signal. Although the specification uses the word “insert”, it doesn’t say that the second signal is inserted into the third signal. In fact, the third signal is received from the device to the host after the second signal is received (please, read paragraph [0013], lines 10-12).

DETAILED ACTION

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9, 11-12, 14-16, and 18-20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Burroughs et al. (US 7,111,158 B1).

Regarding claim 1, Burroughs discloses a method comprising: a host (126(1) or 26(2)) transmitting a first signal to a first device coupled with a second device (serial ATA device 24, e.g., disc drive) (Figs. 1, 3 and 4; col. 1, lines 35-36, the host transmits COMRESET signal such as 30(1)); in response to the first signal, the second device inserting a second signal into transmission of a third signal from the first device to the host (Figs. 1-4; col. 4, line 66-col. 5, line 4; col. 7, lines 13-16, explains communications medium 28 provides signals such as 36(1), 36(2), 84 and/or 104 back to the host); the host detecting a presence of a second device, in response to receipt of the second signal if the host is of a first set of hosts (Figs. 1, 3 and 4; col. 7, lines 13-21; co. 8, lines 27-32; col. 4, line 64-col. 5, line 4; co. 8, lines 27-32, the initiating

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host receives signals from/through the communications medium 28. Note also that since the host receives a signal from the communication medium 28 in response to its initial message, understandably, the host knows the presence of the medium or switch 28); and the host ignoring the second signal if the host is of a second set of hosts (col. 7, lines 13-21; col. 8, lines 27-34 in combination with col. 1, lines 35-40, explain the confirmation message or signal from the medium 28 to one of the hosts is optional. Meaning, since it is optional, it is obvious that the host ignores the signal. Note also that Burroughs discloses a direct transmit and response between the host and the storage device without any signal coming back from a switch in between, see col. 1, lines 35-40).

Regarding claims 7 and 18, the claims include features corresponding to subject matter mentioned above in the rejected claim 1. The claims are mere reformulation of claim 1 in order to define the corresponding machine-accessible medium and system. The rejections to claim 1 are applied hereto.

Regarding claim 2, Burroughs discloses the second device is a fail over switch (Fig. 2; col. 3, line 66-col. 4, line 2; col. 5, line 64-col. 6, line 1; col. 7, lines 6-11, 14-16...).

Regarding claim 3, Burroughs discloses the host transmitting the second signal to the first device (col. 1, lines 38-39, the host transmits the "comwake signal"); and the host receiving a second signal from the first device (col. 1, lines 39-40, the storage device 24 sends the "comwake signal" back to the host that initiates the communication).

Regarding claim 4, Burroughs discloses performed during a handshake initialization sequence between the host and the first device (col. 1, lines 29-36 in combination with col. 5, line 11).

Regarding claim 5, Burroughs discloses the second signal is a Serial ATA out of band (OOB) signal (col. 1, lines 31-35).

Regarding claim 6, Burroughs discloses the fail-over switch is a Serial ATA fail over switch (col. 1, lines 30-31).

Regarding claims 11 and 14, Burroughs discloses a machine-accessible medium that provides instructions that (Figs. 1-4, "communication medium"), if executed by a machine, will cause said machine to perform operations comprising: a host (126(1) or 26(2)) transmitting a COMRESET to a device (serial ATA device 24, e.g., disc drive) coupled with a switch (communication medium or switch 28) (Figs. 1, 3 and 4; col. 1, lines 35-36, the host transmits COMRESET signal such as 30(1)); the host receiving a COMWAKE originating from the switch (Figs. 1-4; col. 4, line 66-col. 5, line 4; col. 7, lines 13-16, explains communications medium 28 provides signals such as 36(1), 36(2), 84 and/or 104 back to the host); the host identifying a presence of the second device, in response to receipt of the COMWAKE (Figs. 1-4; col. 7, lines 17-21; col. 8, lines 30-34, explains after the initiating host receives a signal from the communications medium 28, the host sends a signal or a command through the communications medium 28. Note also that since the host receives a signal from the communication medium 28 in response to its initial message, obviously the host knows the presence of the medium or switch 28); the host receiving a COMINIT from the device (Figs. 1-4; col. 1, lines 37-38; col. 7, lines 22-26; col. 8, lines 34-37, "cominit signal" or signals 34, 76 or 86, and 96 or 106); the host transmitting the COMWAKE to the device (col. 1, lines 38-39, the host transmits the "comwake signal"); and the host receiving the COMWAKE from the device (col. 1, lines 39-40, the storage device 24 sends the "comwake signal" back to the host that initiates the communication).

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Regarding claims 8, 12, 16 and 20, which inherit the limitations of claims 7, 11, 14 and 18, respectively, include the features corresponding to subject matter mentioned above in the rejection of claim 4, and is applicable hereto.

Regarding claim 9, which inherits the limitation of claim 7, includes the features corresponding to subject matter mentioned above in the rejection of claim 5, and is applicable hereto.

Regarding claims 15 and 19, Burroughs discloses the fail-over switch is a Serial ATA fail over switch (col. 1, lines 30-33).

Regarding claim 22, Burroughs discloses a system (abstract) comprising: a host controller (host 26) that initiates a handshake initialization sequence (Figs. 1, and 3-4; col. 1, lines 35-36); a serial ATA device (device 24) that participates in the handshake initialization sequence (Figs. 1 and 3-4; col. 1, lines 36-38); and a fail over switch that provides for two paths between the host controller and the serial ATA device (Figs. 1-4, communication medium or switch 24), the fail over switch inserts an out of band signal into a communication from the serial ATA device to the host controller during the handshake initialization sequence, the out of band signal notifies the host controller that a switch between the two paths of the fail over switch has occurred (Figs. 1, 3 and 4; col. 7, lines 13-21; co. 8, lines 27-32; col. 4, line 64-col. 5, line 4; co. 8, lines 27-32, the initiating host receives signals from/through the communications medium 28. Note also that since the host receives a signal from the communication medium 28 in response to its initial message, understandably, the host knows the presence of the medium or switch 28).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 10, 13, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burroughs in view of Grieff et al. (US 6,948,036 B2).

Regarding claims 10, 13, 17 and 21, Burroughs discloses the machine-accessible medium (28). However, Burroughs doesn't explicitly disclose the medium is one of an internal logic of a circuit and an internal state machine of a circuit.

Grieff teaches the medium (Fig. 1, "adapter") is one of an internal logic of a circuit and an internal state machine of a circuit (Fig. 1; col. 3, lines 1-10; col. 4, lines 49-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the logic and state machine of Grieff into the communication medium 28 of Burroughs in order to enable multi-initiator support for serial ATA drives (Grieff, col. 2, lines 38-42).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kjh
01/14/08


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER